

Mid-Coast Implementation

**Ready TMDL
Local Stakeholder Advisory Committee
Temperature TWG**

MEMORANDUM

TO: Temperature TWG Members and Alternates
FROM: Ryan Michie, DEQ
DATE: July 9, 2012
RE: Details on Site Potential Vegetation Development Process and Suggested Preparation for July 17th Temperature TWG Meeting

Hi Temperature TWG members,

In the memo below you will find a more detailed description about the proposed process to develop site potential vegetation. I've provided links to various documents that might help you prepare for the meeting. Please read them if you are unfamiliar with any of the information.

Site Potential Vegetation

Site potential vegetation is defined as the following:

Site potential vegetation refers to the vegetation land cover which can grow and reproduce on a site given the natural plant biology, site elevation, soil characteristics, climate, and natural disturbance regime. Site potential vegetation does not include past or present anthropogenic activities that influence hydrology, stream morphology, biology, or natural disturbance regimes.

The objective is as follows:

- Identify general categories of site potential natural vegetation, including estimates of vegetation height and density for the Mid-Coast.

Below is the proposed process:

1. Identify geographic groupings (or regions) for different vegetation types.

We typically use Level IV ecoregions because they represent similar types of climate, soils, and topography which have a strong influence on vegetation. For the Mid-Coast I'm proposing we start with the major potential natural vegetation (PNV) zones recently mapped by the USFS (Henderson et al 2011). PNV is similar in concept to the climax plant community - which is the vegetation that would become established if all successional sequences were completed without major natural or direct human disturbances. The main difference between the climax plant community and PNV is that PNV is identified and grouped based on all the previous successional stages having similar environmental controls such as climate, elevation, topography, and other factors. It is helpful to read pages 1-4 in this report to familiarize yourself with PNV:

http://ecoshare.info/wp-content/uploads/2011/09/pnw_gtr841.pdf

A map of the PNV zones in the Mid-Coast can be found here:

ftp://deqftp2.deq.state.or.us/rmichie\MidCoast_USFS_PNV.pdf

2. *Identify the different overstory vegetation types for each region.*

These can be broad or as specific as necessary. Examples below and attached.

- Hardwood - Red Alder
- Conifer/Hardwood mix - Red-Alder/Doug Fir/ Western Hemlock
- Conifer - Douglas Fir/Western Hemlock
- Wet meadow

3. *Identify the average mature height and density for each vegetation type.*

We typically use height/growth curves, or local reference data. I'm looking for a recommendation on the best approach.

4. *Sometimes we incorporate natural disturbance.*

This can be done in a number of ways and will include:

- Identifying major disturbance process and their recurrence interval
- Identifying the likely succession path/s and/or general rule sets about how and where these processes and resulting vegetation types occur.

I put together an example of the potential vegetation types and successional paths for a riparian area (wet soils) in the Western Hemlock Zone. These are based on conceptual succession paths the USFS/BLM put together for the Late Successional Reserve assessments. The final products don't have to be as complex as this diagram but they are helpful to illustrate how the different vegetation types relate to each other.

If you want to get familiar with the conceptual successional paths developed by USFS and BLM they can be accessed here:

<http://www.fs.usda.gov/detailfull/siuslaw/landmanagement/planning/?cid=stelprdb5340709&width=full>

Look at Chapter 5 for the Northern Coast Range (1998), and Appendix G for the Southern Region (Nov 2000). They are broken out by PNV zone. I think the "wet" series is the most applicable to riparian areas.

I look forward to the discussion.

- Ryan